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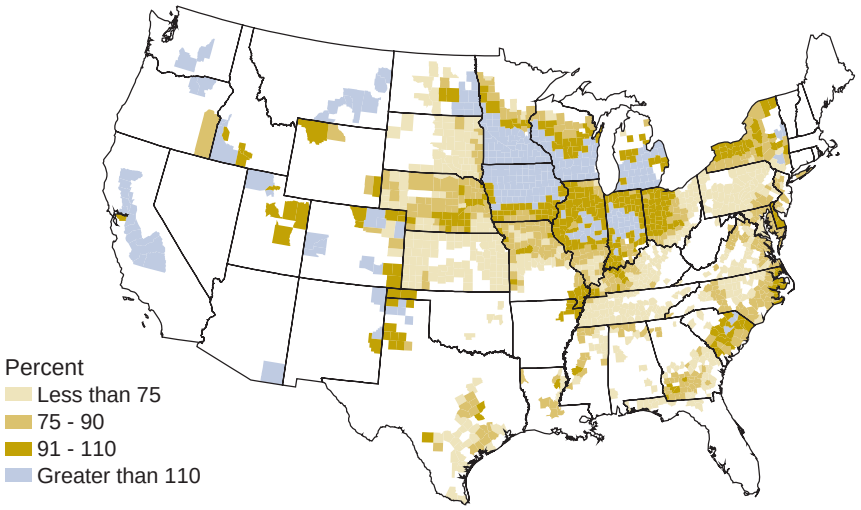
Simulated ACRE Payments and Risk Reduction Point to Midwest as a Potential Winner

USDA's Average Crop Revenue Election Program (ACRE) is an alternative to price-based commodity programs. Begun in 2009, the program uses a combination of State- and farm-level revenue guarantees that are determined from recent historic prices and yields. The ACRE program makes payments to producers when both State average revenue and farm revenue for a crop fall below recent historic levels.

Expected ACRE payments and the consequent risk reduction levels are important to producers considering participating in ACRE. Payments and risk reduction vary across regions because of differences in crop revenue variability and levels of expected revenue. Revenue variability depends on the variability of prices and production (yields multiplied by acres) and interactions between the two. Because crop prices depend largely on world markets, price variability for a crop is similar across much of the United States. Yields, in contrast, depend on weather, crop diseases, insects, and other factors that can affect wide areas but are often localized.

ERS simulations of crop revenue variability indicate that, for producers choosing to participate in ACRE, expected payments and risk reduction would tend to be highest in the most productive crop regions, which are characterized by consistently high yields and high levels of expected revenue. The Midwest region, for instance, has high average corn and soybean yields and, therefore, high expected revenue for these crops, but the relative variability of both yield and revenue is low. Because the expected revenue is high, even a small deviation from the expected revenue in this region would translate to higher payments than in a region where the expected revenue is low. Because of the double trigger for ACRE payments—State average revenue and farm revenue for a crop below recent historic levels—these payments are more effective in reducing risk, or revenue variability, for a farm producing a given crop if the variability of the farm's revenue is closely correlated with the State-level revenue variability. While the farm-State revenue correlation differs across crops, States, and farms within States, it is, on average, stronger for corn and soybeans than for wheat and cotton.

Expected ACRE payment for corn as percent of U.S. average is highest in Corn Belt



ACRE payment simulations based on guarantee price and marketing-year average price of $4.10 per bushel. Expected U.S. average ACRE payment = $11.38 per acre.

Source: USDA, Economic Research Service simulations of crop revenue variability based on data from USDA, National Agricultural Statistics Service and USDA, Risk Management Agency.

Differences—across crops and regions—in expected ACRE program benefits depend on the relative importance of the price and yield components of revenue variability, which can shift from year to year as historic and uncertain future prices and yields shift. If, for instance, market prices for the coming year are expected to vary around a level that is above the guarantee price in ACRE, yield, rather than price, would likely be the stronger factor driving ACRE payments and ACRE benefits would tend to shift toward farms in areas with high yield variability.

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This finding is drawn from . . .

ACRE Program Payments and Risk Reduction: An Analysis Based on Simulations of Crop Revenue Variability, by Robert Dismukes, Christine Arriola, and Keith H. Coble, ERR-101, USDA, Economic Research Service, September 2010, available at: www.ers.usda.gov/publications/err101/

You may also be interested in . . .

FSA Fact Sheet on ACRE: www.fsa.usda.gov/Internet/FSA_File/acre.pdf

Factors Influencing ACRE Program Enrollment, by Andrea Woolverton and Edwin Young, ERR-84, USDA, Economic Research Service, December 2009, available at: www.ers.usda.gov/publications/err84/

FINDINGS

USDA's Karnal Bunt Regulatory Program Protects U.S. Wheat Exports

Karnal bunt is a wheat fungus known to occur in India, Mexico, and a few areas of the United States. Many countries free of Karnal bunt have imposed restrictions on imports of infected wheat. USDA responded by issuing certificates declaring that U.S. wheat shipments are from areas where Karnal bunt is not known to occur. USDA imposes quarantines to contain the spread of the disease and coordinates an annual voluntary survey of grain elevators to check for Karnal bunt. USDA issues the certificates based on the survey and use of quarantines. Karnal bunt seldom results in significant yield loss and does not produce toxic compounds that pose risks to animal or human health. However, if more than 3 percent of the wheat is infected, the flour milled from the wheat tends to give off a fishy odor.

Possible Karnal bunt contamination carries significant financial risk for grain elevators because the wheat harboring the fungus must be sold as low-priced feed. Therefore, some elevator operators advocate ending the certificate program. ERS researchers compared estimated U.S. wheat exports without a certification program with USDA projections (with certification) for 2011-18, commonly referred to as the baseline. If all countries requiring a Karnal bunt certificate do not import U.S. wheat (and assuming that prices do not adjust), U.S. wheat exports would fall an estimated 39 percent below USDA baseline projections in 2011. In subsequent years, researchers expect some of these Karnal bunt-certificate countries would resume U.S. wheat imports. In 2012-18, wheat exports are projected to decline by 27 percent annually.

Because the reduced demand would result in lower prices, importers who do not ban U.S. wheat would increase demand for U.S. wheat. Consequently, the actual decline in U.S. exports would average 15.1 percent per year over the 2012-18 period.

Reduced U.S. wheat exports would be partially offset by increased demand for lower priced domestic wheat for feed. Reduced wheat production, coupled with lower prices, would reduce annual cash receipts from farm marketings by 12.4 percent on average from the baseline. As wheat area declines, the area planted to other crops would increase, causing the prices of other crops to fall, further lowering net farm income. Under this scenario, the cumulative reduction of national net farm income from 2011 to 2018 would be $8.0 billion, or an average of 1.2 percent per year.

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This finding is drawn from . . .

The Economic Impact of Karnal Bunt Phytosanitary Wheat Export Certificates, by Gary Vocke, Edward W. Allen, and J. Michael Price, WHS-10h-01, USDA, Economic Research Service, August 2010, available at: www.ers.usda.gov/publications/whs/2010/08aug/whs10h01/